APPENDIX B: BUSINESS REQUIREMENTS WORKFLOWS

Appendix B, the Business Requirement Workflows, describes workflows for the business processes that the Web-CMR Business Requirements support. Information in this attachment is to be used to get a better understanding of the requirements identified in *Section 6*: **Technical and Business Requirements** of this RFP. These diagrams depict an overall workflow for all conditions, and do not include workflows for condition-specific requirements.

Section 1 of this Appendix contains a visual and textual overview of the functions and workflows that are described in more detail in Sections 2 and 3. Section 2 contains diagrams that present a broad visual representation of the business procedures of disease reporting and surveillance, in the context of an electronic disease surveillance system. Section 3 describes the steps of each workflow in general terms, and includes references to the specific business requirements supporting the step of the workflow.
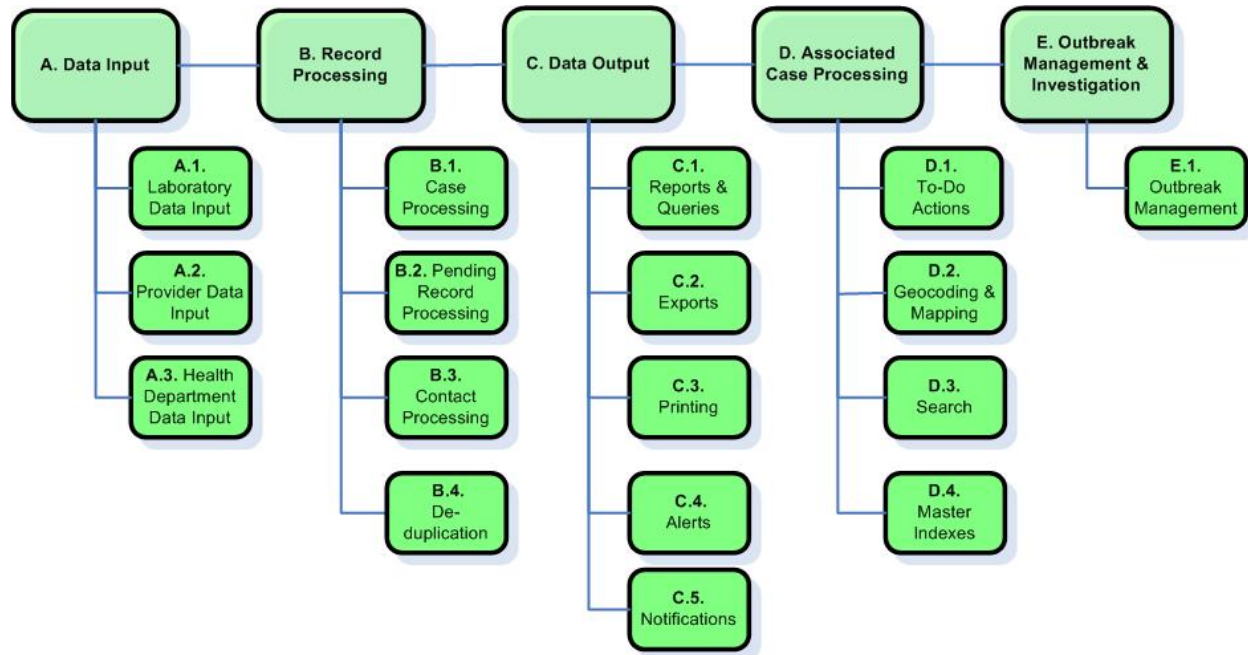
NOTE: All of the business processes displayed and described within this Appendix **must** occur within the context of the Technical Requirements. This includes but is not limited to requirements regarding security, data access permissions, and configurability permissions.
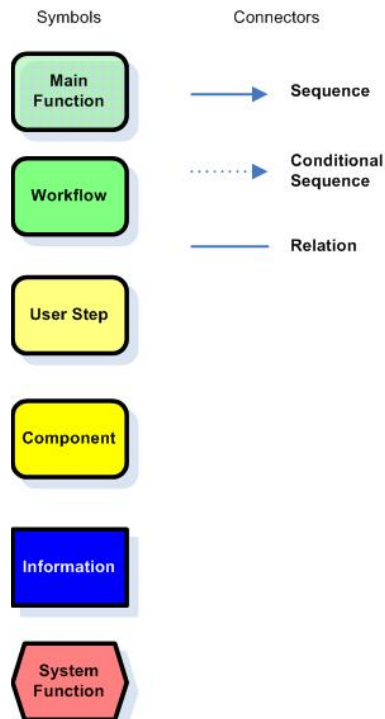
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1 OVERVIEW OF BUSINESS REQUIREMENT WORKFLOWS

General Overview of Functions & Workflows

Description of Overview Functions and Workflows

A. Data Input
The Data Input function describes the workflows of laboratory, provider, and health department data input.

Data Input includes three workflows:
- Workflow A.1 - *Laboratory Data Input*: Laboratory Data Input describes the workflow for the input of laboratory data by a laboratory.
- Workflow A.2 – *Provider Data Input*: Provider Data Input describes the workflow for the input of CMR data by a provider. The intention is to have a web-interface for providers to report notifiable conditions to public health.
- Workflow A.2 – *Health Department Data Input*: Health Department Data Input describes the workflow for the initial input of case-related information (CMR, Laboratory Report, or Case Form) by a local and/or State health department.

B. Record Processing
The Record Processing function describes the workflows used by health departments (local and/or State) to manage the Case, CMR, ELR, Laboratory, and Contact records that have been entered into the system.

Record Processing includes four workflows:
- Workflow B.1 – *Case Processing*: Case Processing describes the activities that health departments perform in support of investigation and follow-up of notifiable conditions.
- Workflow B.2 – *Pending Record Processing*: Pending Record Processing describes the workflow for the management and disposition of electronically received CMR, ELR, and Laboratory Report records.
- Workflow B.3 – *Contact Processing*: Contact Processing describes the activities that health departments perform in support of investigation and follow-up of contacts of cases.
- Workflow B.4 – *De-duplication*: De-duplication describes the workflow for the de-duplication of duplicate Case or Person records.

C. Data Output
The Data Output function describes the workflows for system users to request and/or receive information from the system.

Data Output includes five workflows:
- Workflow C.1 – *Reports & Queries*: Reports and Queries describes the workflow for generating a report and/or query.
- Workflow C.2 – *Exports*: Exports describes the workflow for generating a data export.
- Workflow C.3 – *Printing*: Printing describes the workflow for printing records and/or screens.
- Workflow C.4 – *Alerts*: Alerts describes workflow for generating an alert (communication directed at human recipients).
- Workflow C.5 – *Notifications*: Notifications describes the activities associated with end-user notifications, delivered on-line when end-user is logged into system.

D. Associated Case Processing
Associated Case Processing describes the workflows for activities associated with the processing of case records.

Associated Case Processing includes four workflows:
- Workflow D.1 – *To-Do Actions*: To-Do Actions describes the activities associated with entry and management of case-specific task lists.

- Workflow D.2 – *Geo-coding & Mapping*: Geo-coding & Mapping describes the workflow for the geo-coding of records.
- Workflow D.3 – *Search*: Search describes the workflow for the search of Case or Person records.
- Workflow D.4 – *Master Indexes*: Master Indexes describes the workflow for activities associated with the Master Patient Index, Master Organization Index, and Master Provider Index. These activities include the search and de-duplication of the master indexes

E. Outbreak Management and Investigation

Outbreak Management and Investigation describes the activities that health departments perform in support of managing outbreaks of communicable disease.
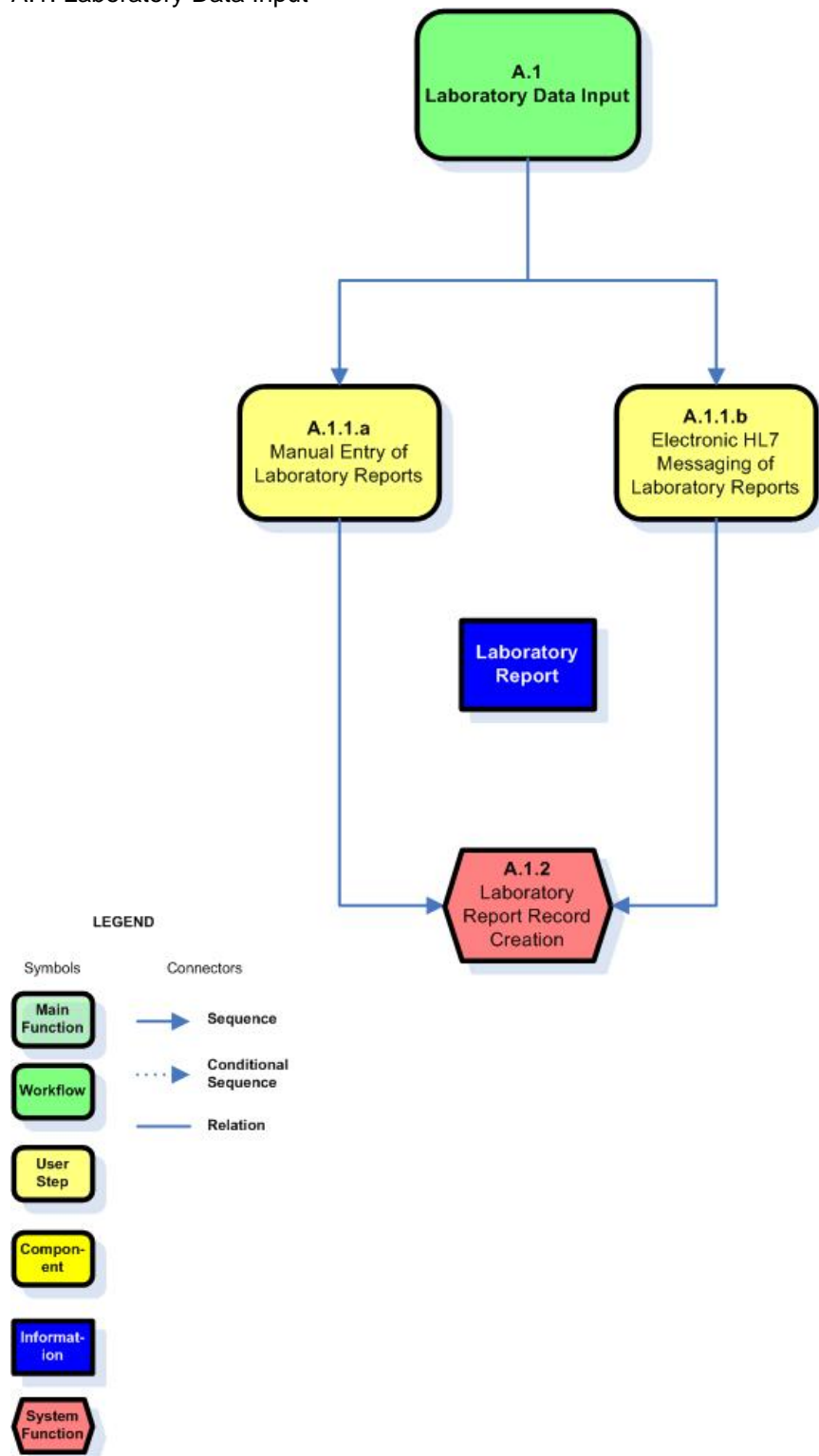
- Workflow E.1 – *Outbreak Management*: Outbreak Management describes the activities that health departments perform in support of managing outbreaks of communicable disease.

2 BUSINESS REQUIREMENT WORKFLOW DIAGRAMS

A. Data Input

A.1: Laboratory Data Input

A.2: Provider Data Input

A.3: Health Department Data Input

A. 3
Health Department Data Input

A.3.1 Search Master Person Index

A.3.2 View Matching MPI records

A.3.3 Add new Person to MPI

A.3.4 Select Person from MPI

B.1 Case Processing

A.3.5.a Select Case Record

A.3.5 View existing Case Records for Person

A.3.6 Select record type to initiate for Person

A.3.7 Select Condition

A.3.8.a Enter CMR Data

A.3.8.b Enter Laboratory Data

A.3.8.c Enter Case Report Form

Patient Information

Laboratory Report

Patient Information

Condition Information

A.3.9 Attach Electronic Documents

Condition Information

A.3.10 Committed Save

A.3.11 Validation

A.3.12 Case Creation

B.1 Case Processing

DONE: User returns to Data Entry

LEGEND

Symbols

Connectors

Main Function

Sequence

Workflow

Conditional Sequence

User Step

Relation

Compon-ent

Informat-ion

System Function

B. Record Processing

B.1: Case Processing Workflow

B.2: Pending Record Processing
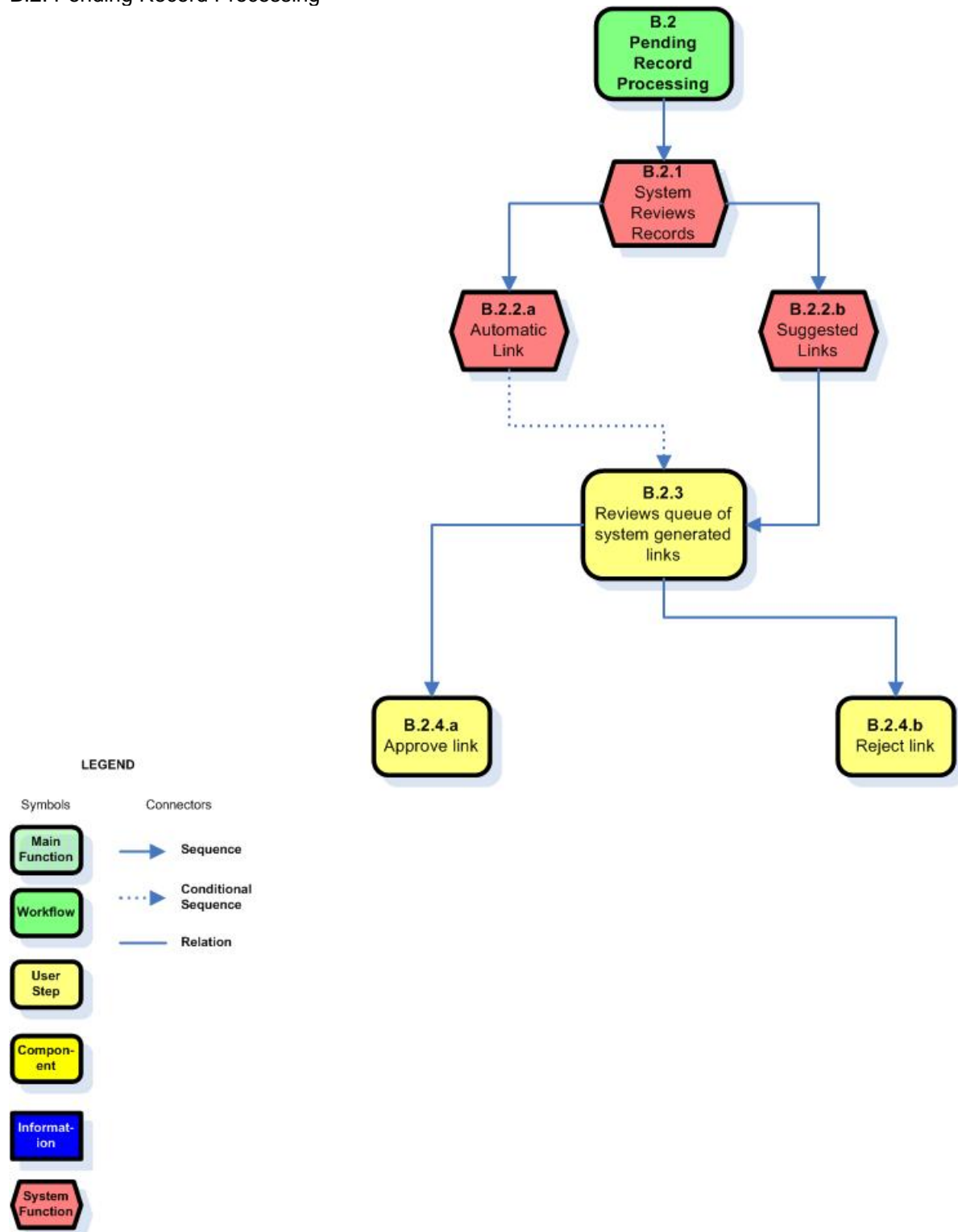
B.3: Contact Processing Workflow
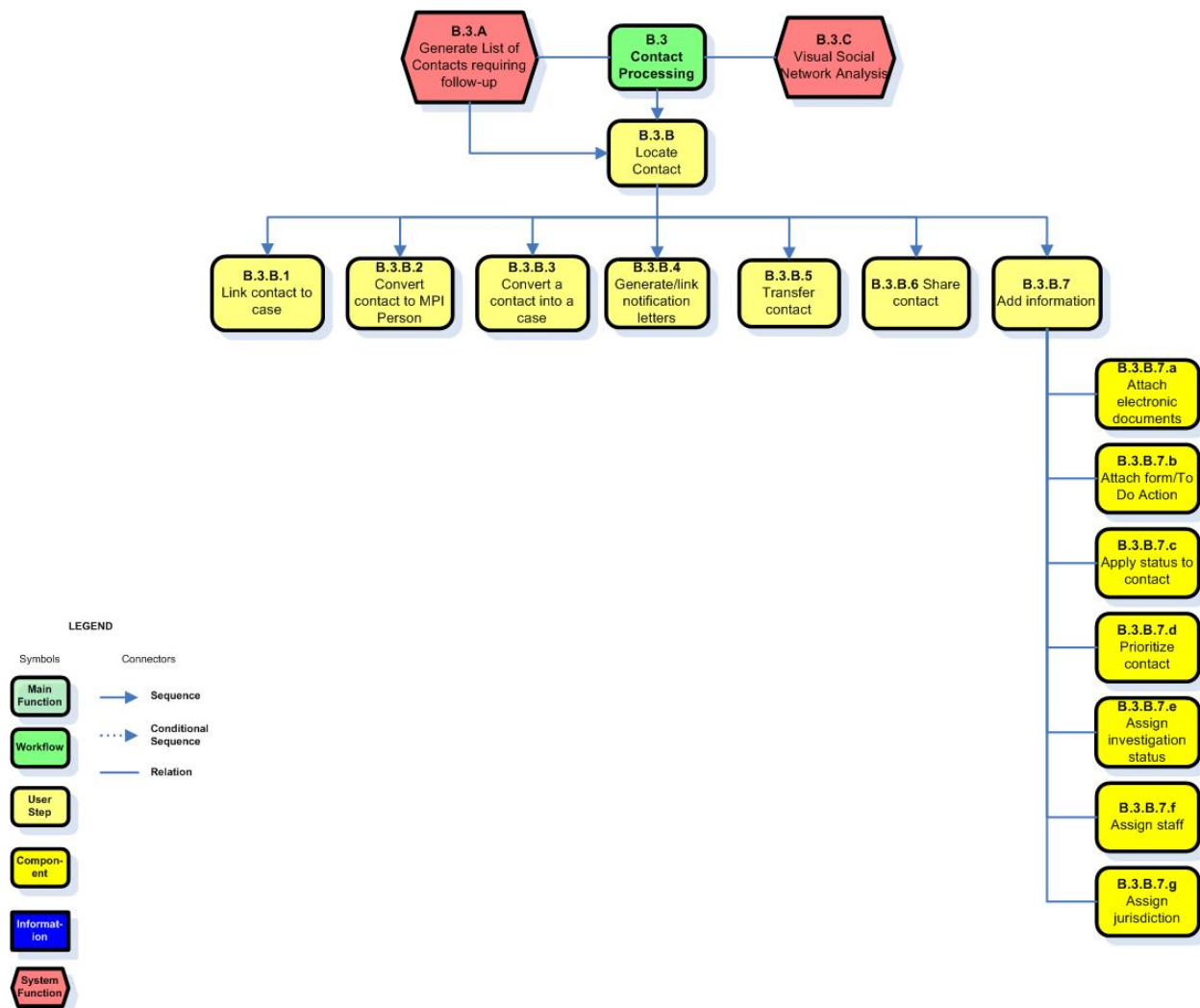
B.4: Deduplication Workflow
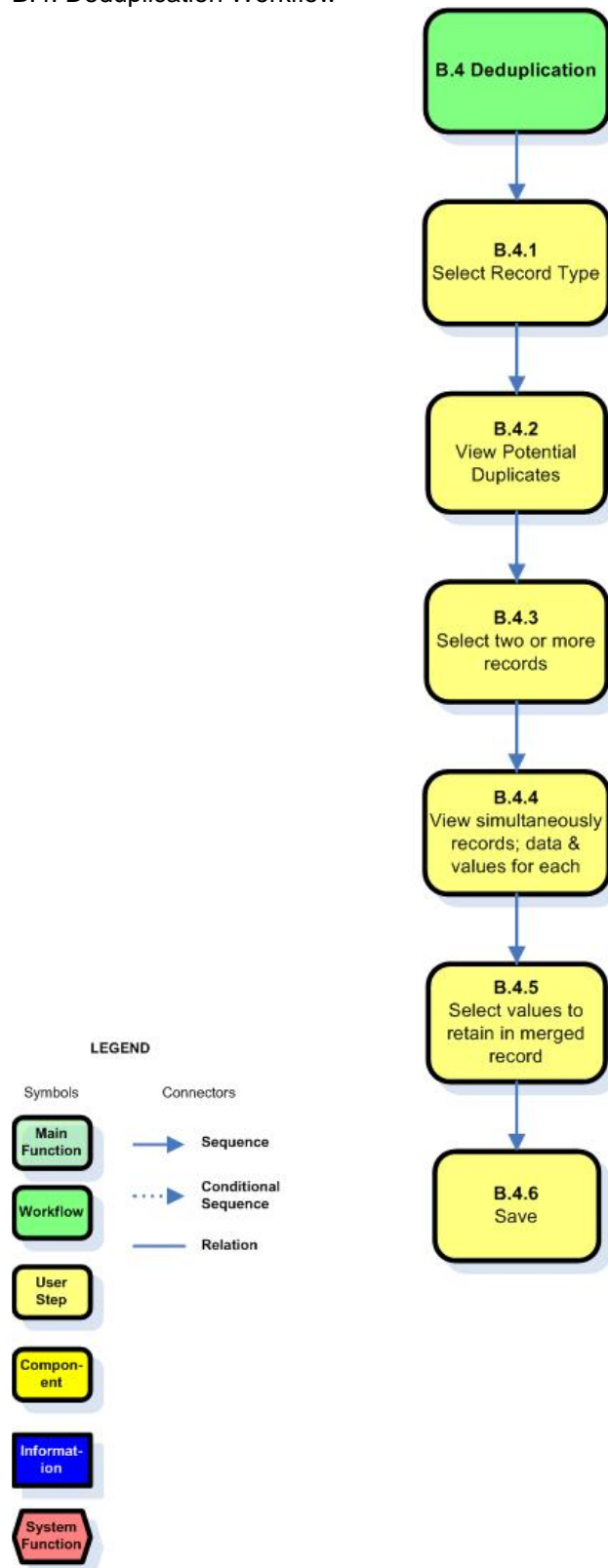
C. Data Output

C.1: Reports & Queries Workflow
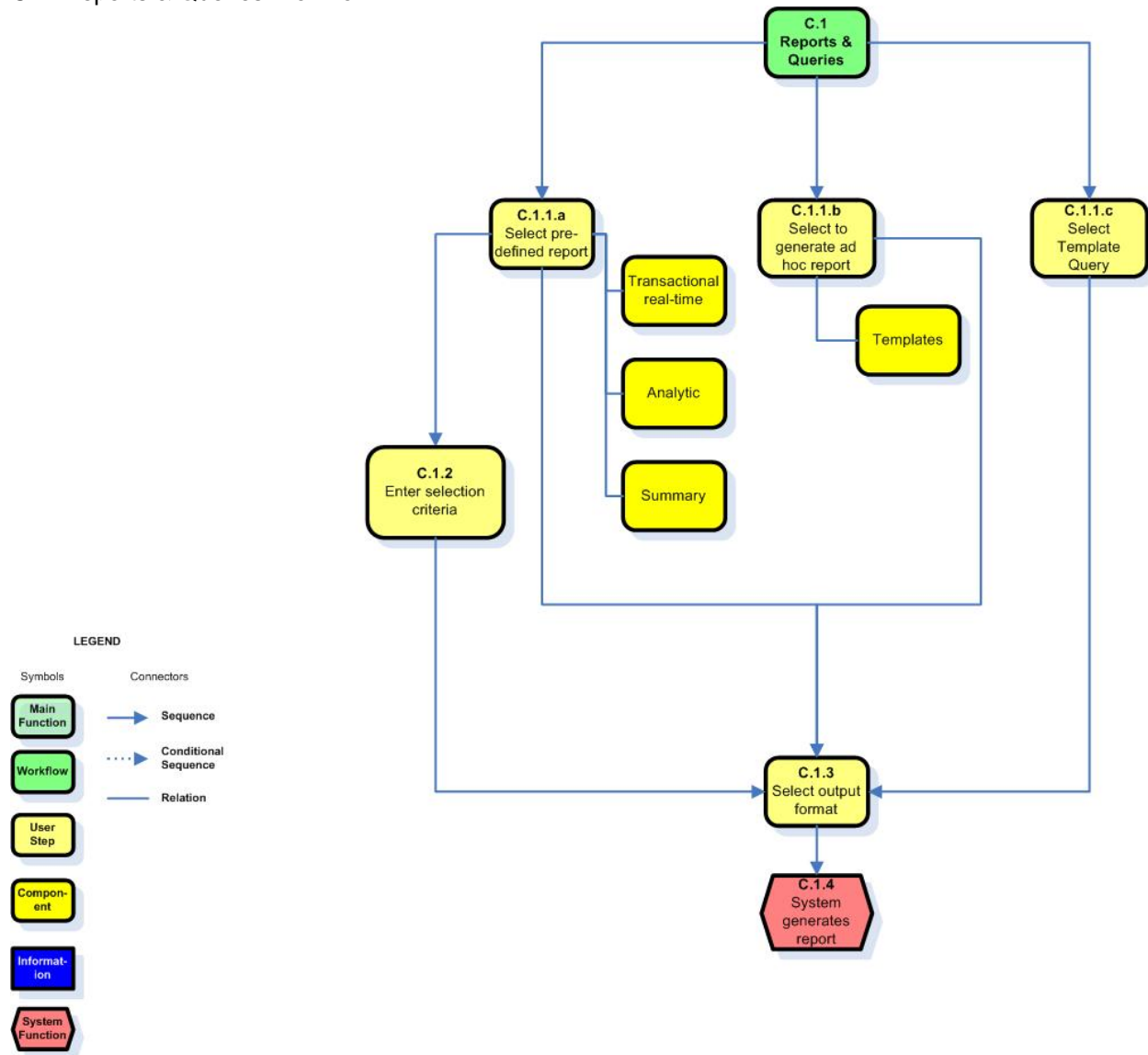
C.2: Exports Workflow
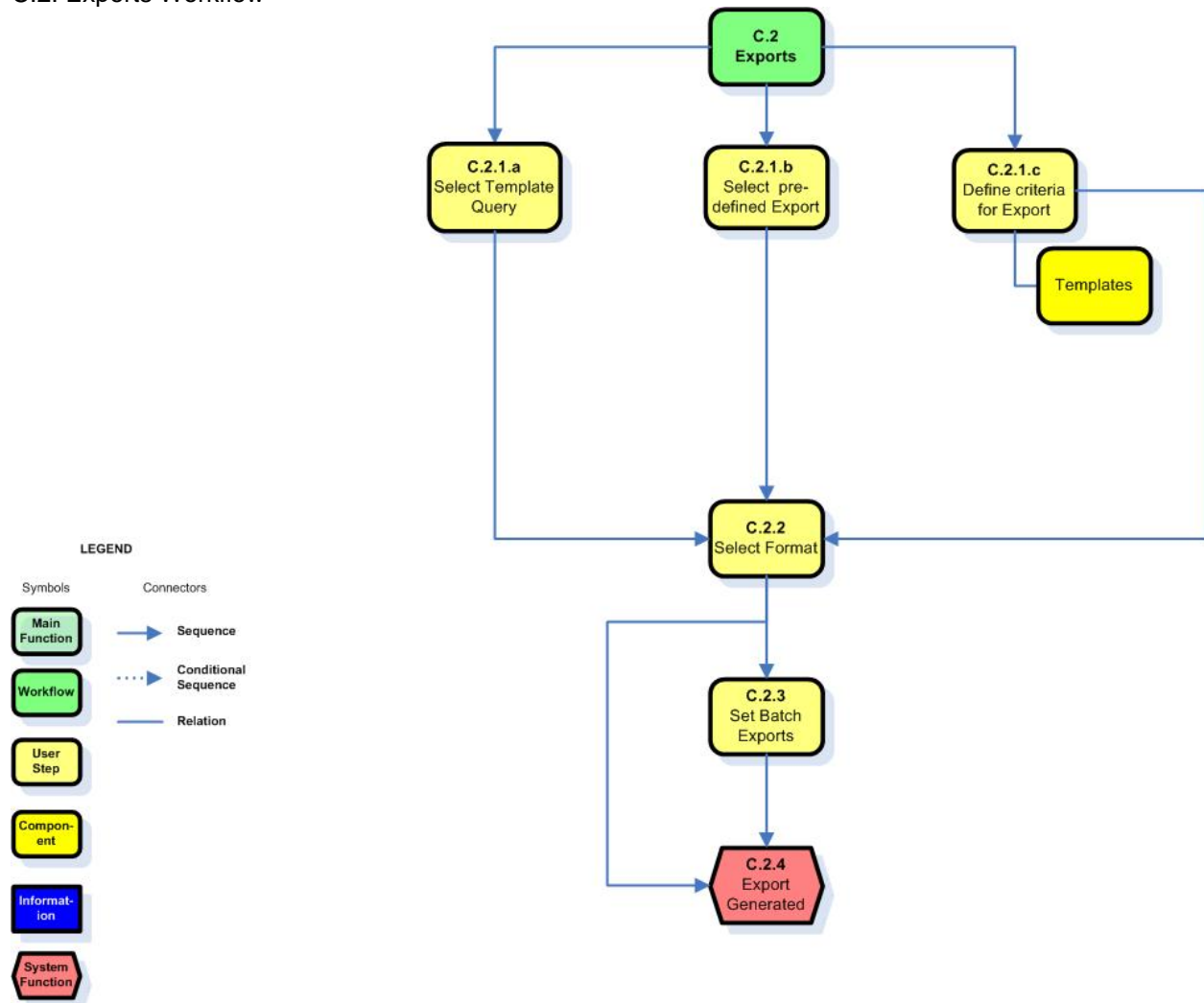
C.3: Printing Workflow
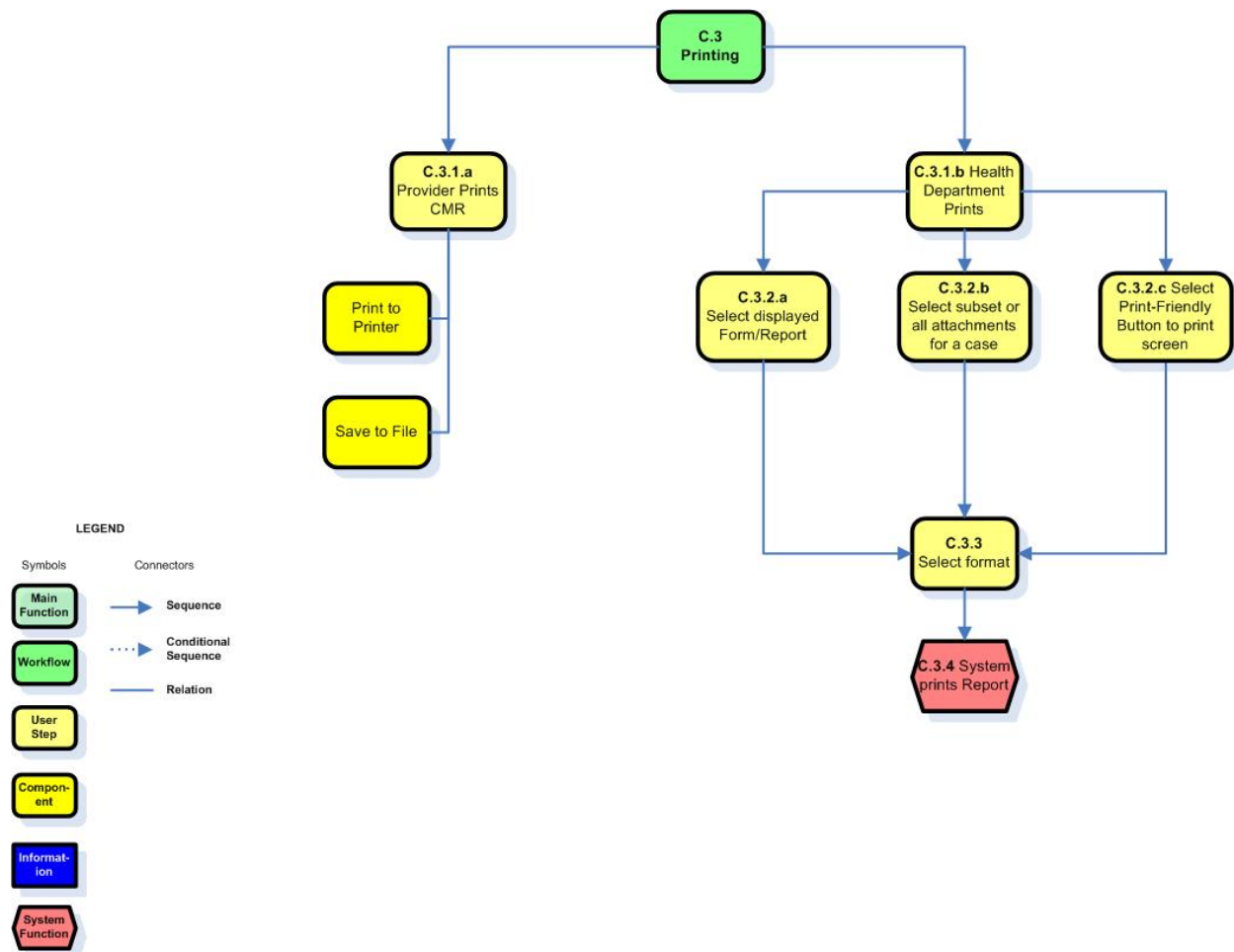
C.4: Alerts Workflow
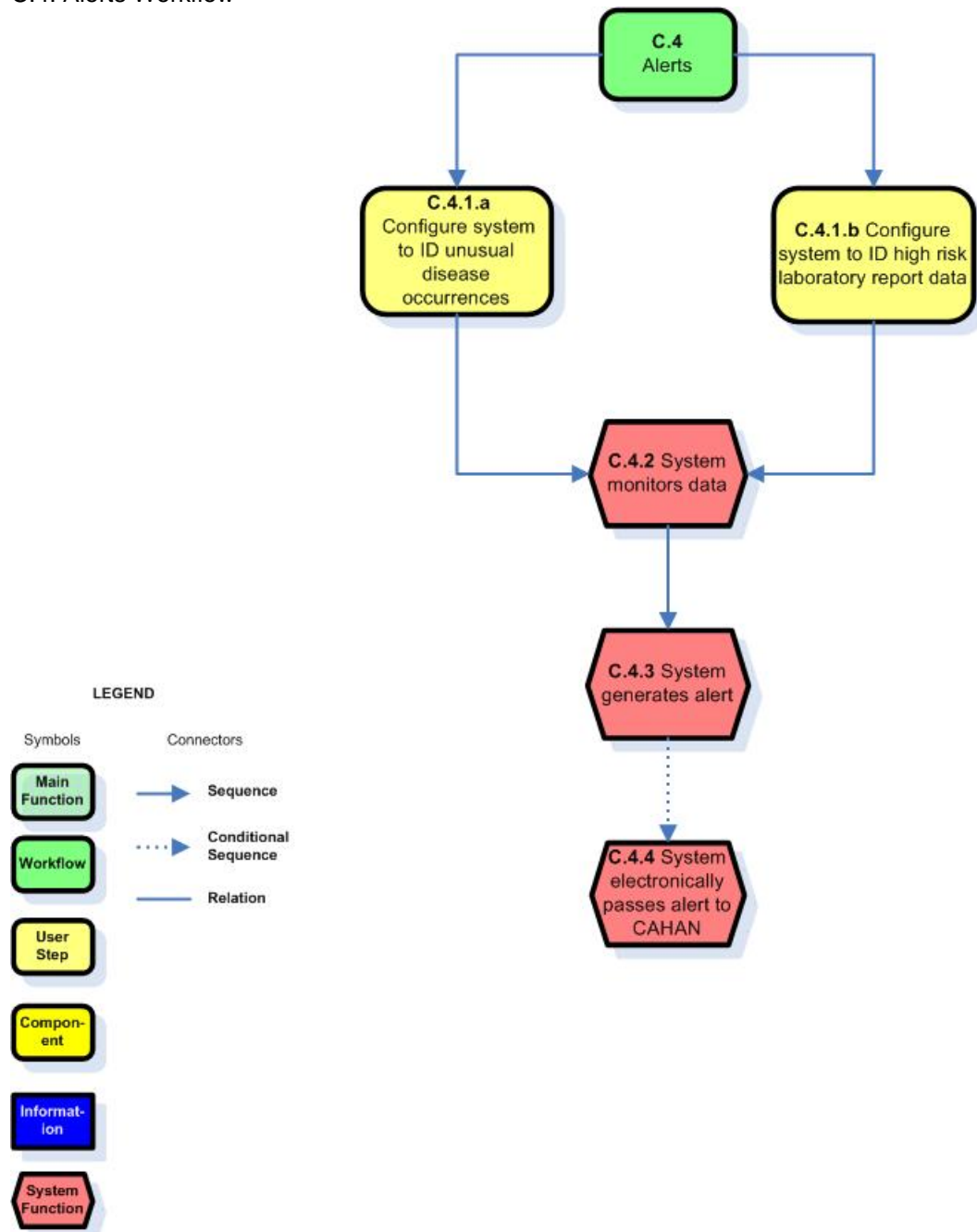
C.5: Notifications Workflow
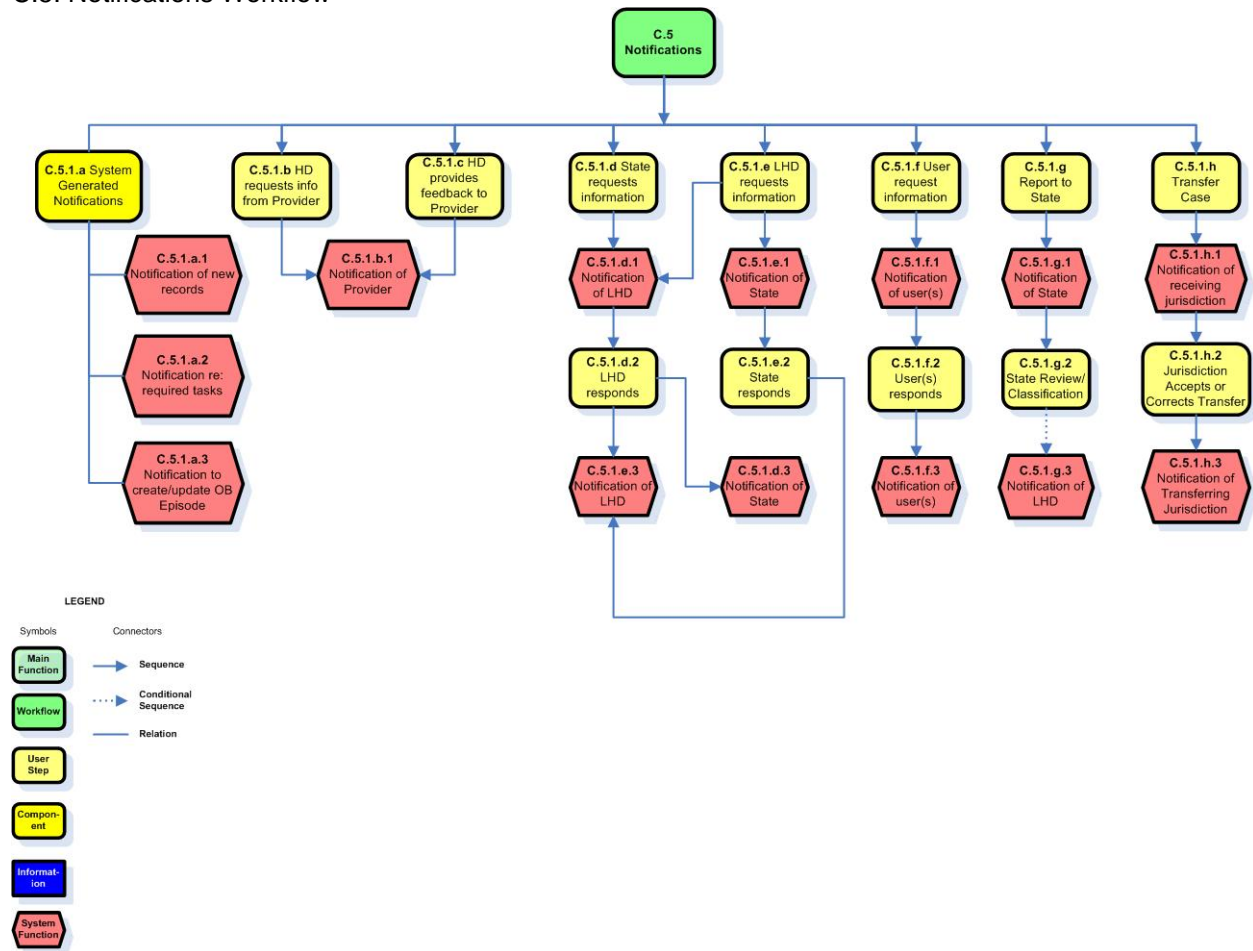
D. Associated Case Processing

D.1: To Do Actions Workflow
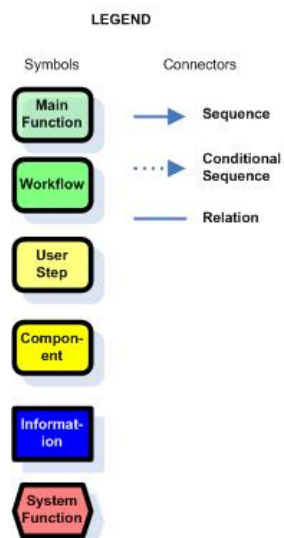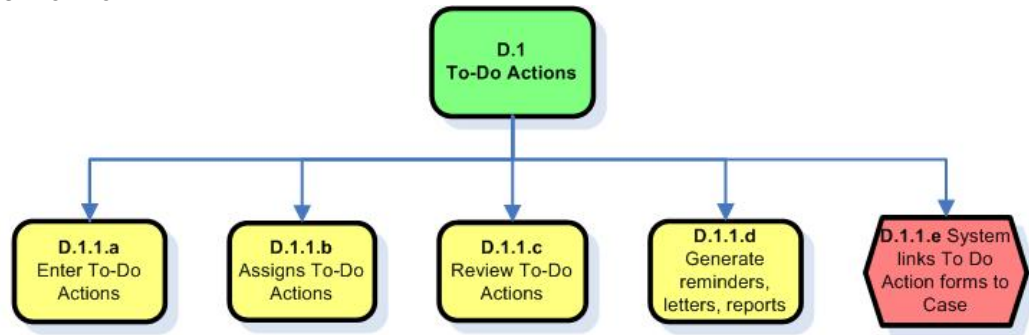
D.2: Geocoding and Mapping Workflow
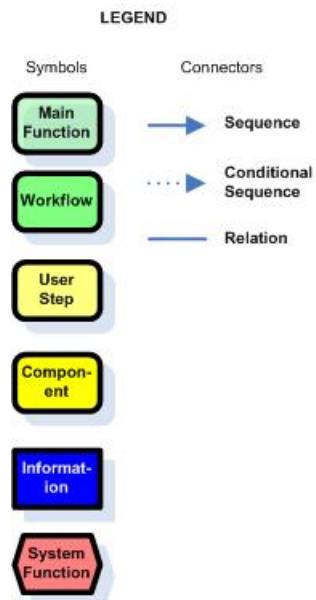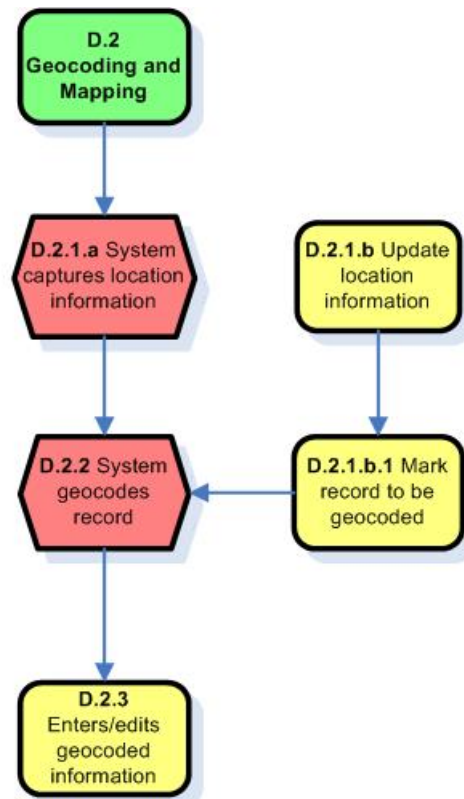
D.3: Search Workflow
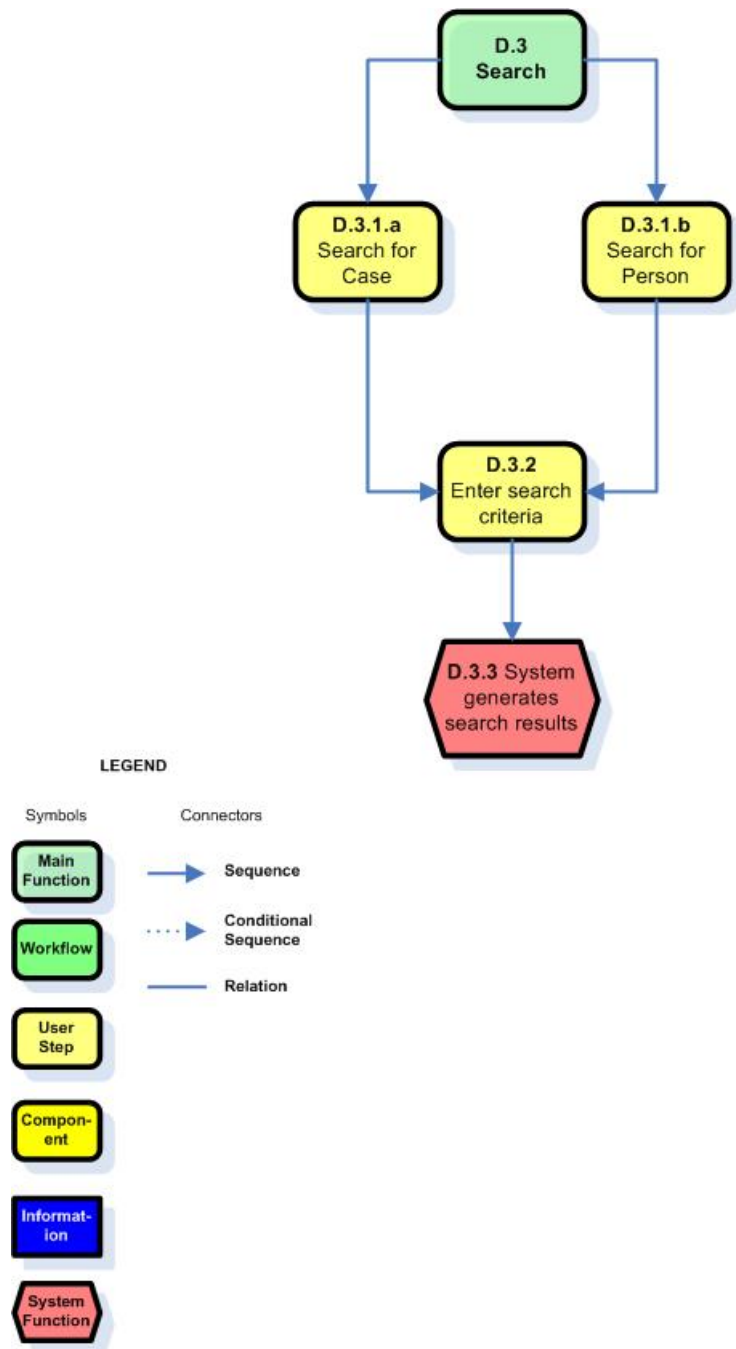
D.4: Master Index Workflow
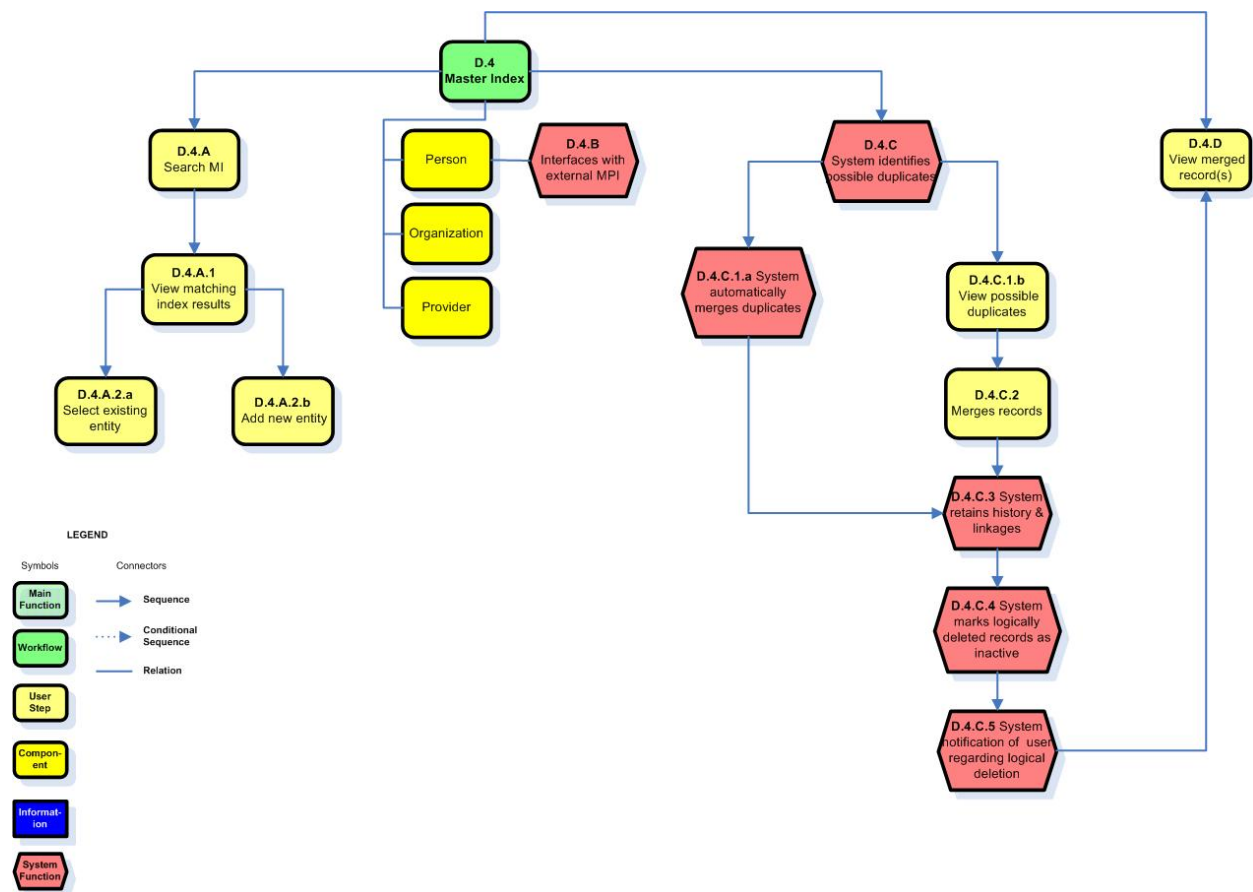
E. Outbreak Management and Investigation

E.1: Outbreak Management Workflow
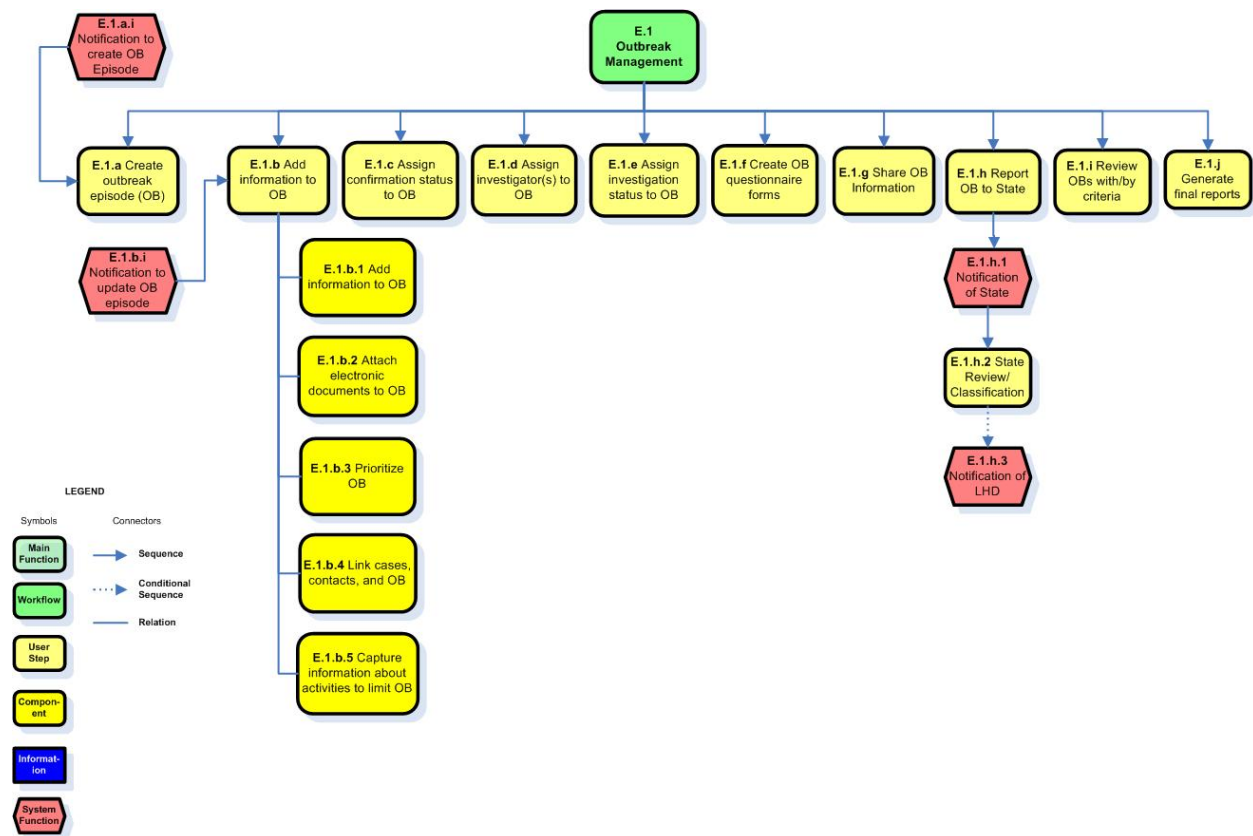
3 BUSINESS REQUIREMENT WORKFLOW DESCRIPTIONS

A. Data Input

A.1: Laboratory Data Input

This diagram describes the workflow for the input of laboratory data by a laboratory. There are two ways this may occur:

> A.1.1.a: Manual entry of Laboratory Reports
> In this step, a laboratory user enters laboratory data into the system via a web-interface. [ELR **1.1.1.1**] *Note: This is a component of ELR, being procured under RFP # 07-65624. It is included in this workflow to depict the level of integration necessary between Web-CMR and ELR.*

> A.1.1.b: Electronic HL7 Messaging of Laboratory Reports
> In this step, laboratory data are electronically messaged into the system. [ELR **1.1.1.2**] *Note: This is a component of ELR, being procured under RFP # 07-65624. It is included in this workflow to depict the level of integration necessary between Web-CMR and ELR.*

> A.1.2: After laboratory data have been input into the ELR system and made available to Web-CMR, the system generates a laboratory report record. This laboratory report record will be an integral component of the case, as indicated in Section B Record Processing. [ELR **1.1.1.3**]

A.2: Provider Data Input

This diagram describes the workflow for the input of Confidential Morbidity Report (CMR) data by a provider. The intention is to have a web-interface for providers to report notifiable conditions to the local health departments, replacing the current paper form.

> A.2.1: Provider enters the data contained on the CMR form into a web-based form. This data includes information about the Patient and Condition, and should closely match the paper CMR form. [**2.2.2.1 – 2.2.2.3; 2.2.2.9 – 2.2.2.11**]

> A.2.2: Provider may attach one or more electronic documents (e.g. an electronic chest X-ray) to the CMR web-form. [**2.2.2.4**]

> A.2.3: Provider submits the CMR to the system. [**2.2.2.6**]

> A.2.4: The system performs a simple form validation of the data, running simple error checks on the input data. [**2.2.2.5**]

> A.2.5: The system assigns the appropriate County to the CMR according to provided criteria. This is to ensure that the CMR is reported to the correct LHD. [**2.4.1.1**]

> A.2.6: Provider may print the CMR they have completed entering, either to a printer or to file. A confidentiality statement is included on the printed version. *Refer also to (C.3) Printing.* [**2.2.2.12**; **2.8.3.1**]

> A.2.7: Provider views a confirmation of their submission. This confirmation includes the name of the LHD that the CMR was reported to, and a unique identifier for the CMR record. [**2.2.2.7 – 2.2.2.8**]

A.3: Health Department Data Input

This diagram describes the workflow for the initial input of case-related information (CMR, Laboratory Report, or Case Report Form) by a local and/or state health department. [**2.2.3.1**]

A.3.1: User searches the Master Person Index (MPI) to determine if the person for whom they have case-related information exists in the system. [**2.2.3.2**]

A.3.2: User views MPI records that match the search criteria [**2.2.3.2**]

A.3.3: If the user does not identify an MPI record matching the person for whom they have case-related information, they add a new person record to the MPI.

A.3.4: User selects a person from the MPI. This includes the ability to select a person record that was just added (A.3.3). [**2.4.2.4**]

A.3.5: User views existing Cases, if applicable, for the person. [**2.2.3.2**]

A.3.5.a: If user identifies that the Case *they are entering* exists, they select the existing Case, and initiate the (B.1) Case Processing Workflow.

A.3.6: User selects the data entry flow based on the information they have to enter. This includes CMR, Laboratory Report, or Case Report Form.

A.3.7: User selects the condition for the Case. *This step determines the structure of the Case Record.* [**2.4.2.5**; **2.4.2.8**]

A.3.8.a: If user selects CMR data entry in Step A.3.6, user enters CMR data into system. This includes Patient and Condition information, and should closely match the paper CMR form. [**2.2.3.10 – 2.2.3.15; 2.2.3.17 – 2.2.3.20**]

A.3.8.b: If user selects Laboratory data entry in Step A.3.6, user enters Laboratory data into system. This includes Laboratory Report information. [**2.2.3.10 – 2.2.3.15; 2.2.3.17 – 2.2.3.20**]

A.3.8.c: If user selects Case Report Form data entry in Step A.3.6, user enters Case Report Form data into system. This includes Patient and Condition information. [**2.2.3.10 – 2.2.3.15; 2.2.3.17 – 2.2.3.20**]

A.3.9: User attaches one or more electronic documents (e.g. an electronic chest X-ray) to the record they are entering. [**2.2.3.16**]

A.3.10: User performs a committed save. *This saves the record to the system, as opposed to saving a record in the middle of the entry process.*

A.3.11: System validates the entered data. This includes a range of data validation processes, including meta-validation, syntactic validation, semantic validation, domain validation, error checking, and form validation. Error messages should be displayed to the user. [**2.2.3.23 – 2.2.3.28**]

A.3.12: The system creates a Case record. From here, the user may enter the (B.1) Case Processing workflow for the Case they have just entered, *or* may return to initiate (A.3) Data Input.

B. Record Processing

B.1: Case Processing

This diagram describes the activities that public health departments perform in support of investigation and follow-up of notifiable conditions once a case has been reported to public health.

B.1.1.a: User selects one or more cases to process. *Some Case Processing activities may be performed in a batch process.*

B.1.1.b: User initiates Case Processing workflow after completion of Health Department Data Input workflow (A.3)

B.1.2.a: User with appropriate permissions deletes Case(s) [**2.3.1.3**]

B.1.2.b: User views and/or prints a Case(s). *Refer also to (C.3) Printing* [**2.3.1.1**]

B.1.2.c: User adds additional information to Case. This includes one or more of the following components. [**2.3.1.2**]

B.1.2.c.1: User enters an additional CMR for the Case [**2.2.3.21; 2.4.2.2**]

B.1.2.c.2: User enters an additional Laboratory Record for the Case [**2.4.2.2**]

B.1.2.c.3: User attaches one or more electronic documents to the Case. [**2.2.3.16**]

B.1.2.c.4: User enters information into the Case Report Form(s). *Some information on the Case Report Form(s) may be prefilled with data from a CMR or Laboratory Report.* [**2.2.3.3 – 2.2.3.9; 2.2.3.22; 2.4.2.2**]

B.1.2.c.5: User assigns investigators and/or staff to various aspects of case investigation and/or follow-up. [**2.4.5.1 – 2.4.5.4**]

B.1.2.c.6: User records and tracks various aspects of case management information, including evaluation, treatment, and monitoring. [**2.4.5.5 – 2.4.5.14; 2.4.5.16 -2.4.5.31**]

B.1.2.c.7: User edits Case information. [**2.3.1.2**; **2.4.2.12; 2.4.2.14; 2.4.2.15**]

B.1.2.c.8: User changes Case properties. This includes the ability to over-ride system generated values.

B.1.2.d: LHD User shares Case information with another LHD, while retaining Case ownership. [**2.4.6.6**]

B.1.2.e: LHD User transfers Case to another jurisdiction, relinquishing Case ownership [**2.4.6.1 – 2.4.6.5**]

B.1.2.f.1: User reviews Case information and/or classifies Case. [**2.4.2.11**]

B.1.2.f.2: User reports Case to State.

B.1.2.f.3: System notification of State User(s) indicating that Case has been reported [**2.8.5.6**]

B.1.2.f.4: State User reviews Case and classifies case. [**2.4.2.11**]

B.1.2.f.4.a: <u>If LHD and State classifications differ</u>, the system will generate a notification to the LHD [**2.8.5.7**]

B.1.2.f.4.b: After State review and classification of Case, the system flags Case as ready for reporting to CDC. *Some conditions will be automatically flagged for CDC reporting, without any user interaction after entry. Similarly, some conditions will be automatically flagged for CDC reporting after they have been reported to State.*

B.2: Pending Record Processing

This diagram describes the workflow for the management and disposition of electronically received CMR, ELR, and Laboratory Report records. *This workflow relies on a seamless integration between ELR and Web-CMR, where laboratory reports input manually by a laboratory or electronically messaged from a laboratory system into ELR are available in Web-CMR.*

B.2.1: System reviews pending CMR, ELR, and Laboratory Report records according to specified criteria. This includes the System assignment of the appropriate jurisdiction to the record. [**2.4.1.1**]

B.2.2.a: System generates automatic links between pending CMR, ELR, and Laboratory Report records and Cases according to specified criteria. [**2.4.2.1**; **2.4.2.4**]

B.2.2.b: System suggests possible links between pending CMR, ELR, and Laboratory Report records and Cases according to specified criteria. [**2.4.2.3**]

B.2.3: User views a queue of system generated links and suggested links. For some conditions, there may be no review of automatically linked records. [**2.4.2.3**]

B.2.4.a: User approves system generated or suggested link. [**2.4.2.3**]

B.2.4.b: User rejects system generated or suggested link. [**2.4.2.3**]

B.3: Contact Processing

This diagram describes the activities that health departments perform in support of investigation and follow-up of contacts of Cases. *Contacts are captured on the generic and condition-specific forms listed in Business Requirements **2.2.3.4 -2.3.3.8**, and contained in Appendix C.* [**2.5.1.1**]

B.3.A: User generates list of contacts requiring follow-up based on contact priorities. [**2.5.1.2**]

B.3.B: User locates a contact for further action. *This may occur through a search, an existing case, or the list of contacts requiring follow-up.*

B.3.B.1: User links a contact to a Case [**2.5.1.5**]

B.3.B.2: User converts a contact into a record in the Master Person Index, *if there is adequate information to do so.*

B.3.B.3: User converts a contact into a Case. The information regarding the contact must be maintained as the original contact, but shall also be transitioned into a new Case, without re-entry of existing information. [**2.5.1.6**]

B.3.B.4: User generates or links notification letters to contacts to notify them of exposure and inform them of additional appropriate condition-specific information. [**2.5.1.3**]

B.3.B.5.: User transfers contact to another LHD for follow-up and investigation activities. [**2.5.1.11**]

B.3.B.6: User shares contact information with another LHD for follow-up and investigation activities. [**2.5.1.11**]

B.3.B.7: User adds additional information to a contact by performing one or more of the following actions

> B.3.B.7.a: User attaches electronic documents to contact [**2.5.1.4**]

> B.3.B.7.b: User attaches form or task list to contact.

> B.3.B.7.c: User applies a status to contact. [**2.5.1.7**]

> B.3.B.7.d: User prioritizes contact. [**2.5.1.8**]

> B.3.B.7.e: User assigns investigation status to contact. [**2.5.1.9**]

> B.3.B.7.f: User assigns staff responsible for contact follow-up activities. [**2.5.1.10**]

> B.3.B.7.g: User assigns a jurisdiction to the Contact. *If there is address information for the contact, the system should assign jurisdiction automatically.* [**2.5.1.12**]

B.3.C: Visual Social Network Analysis: A user should be able to generate a visualization of related cases and contacts. [**2.5.1.13**]

B.4: Deduplication

This diagram describes the workflow for the deduplication of duplicate Case or Person records. [**2.4.1.2**]

B.4.1: User selects to de-duplicate Persons or Cases.

B.4.2: User views potential duplicates.

B.4.3: User selects two or more duplicates to deduplicate.

B.4.4: User views records simultaneously, including the data elements and values from each record. [**2.4.1.3**]

B.4.5: User selects values to retain in the merged record.

B.4.6: User saves/performs merge.

C. Data Output

C.1: Reports and Queries

This diagram describes the workflow for generating a report and/or query.

C.1.1.a: User selects a pre-defined report or query. Pre-defined report categories include transactional real-time (reports/queries run against the transactional database); analytic (reports/queries run against the warehouse database); summary (reports/queries containing aggregated data fields). Please refer to Appendix C for specified pre-defined reports. [**2.8.1.2 - 2.8.1.7; 2.8.1.10**]

C.1.1.b: User selects to generate an ad hoc report or query. User has the option to save the ad hoc report/query as a template for future report and export use. *User may only generate ad hoc report/query using data that user is permitted to access; report/query is only populated with data that user is permitted to access.* [**2.8.1.2 - 2.8.1.3; 2.8.1.7 - 2.8.1.10**]

C.1.1.c: User selects to generate a report or query based on a previously saved template. [**2.8.1.9**]

C.1.2: User has the option to enter selection criteria. [**2.8.1.4**]

C.1.3: User selects the output format for the report. [**2.8.1.1**]

C.1.4: System generates the report or query, which may be printed or saved to file.

C.2: Exports

This diagram describes the workflow for generating a data export. *User may only generate an export using data that the user is permitted to access; the generated export is only populated with data that user is permitted to access.*

C.2.1.a: User selects to generate a data export on the basis of a previously saved template. [**2.8.1.9**]

C.2.1.b: User selects to generate a pre-defined export.

C.2.1.c: User defines criteria to generate a user-defined export. User has the option to save the ad hoc export as a template for future use. [**2.8.2.1 -2.8.2.2; 2.8.2.4**]

2.2.2: User selects the file format for data to be exported to. Exported data will be utilized in a variety of analytic tools, and must be able to be read into standard software without modification. [**2.8.2.3**]

C.2.3: User has the option to set standard batch exports to be generated at a specified date and time. [**2.8.2.5**]

C.3.4: System generates exported output.

C.3: Printing

This diagram describes the workflow for printing records and/or screens.

C.3.1.a: Provider selects to print a CMR they have entered. They are presented with options to print to a printer and to print to file. [**2.8.3.1**]

C.3.1b: User at health department identifies a need to print some information from the system.

C.3.2.a: User selects to print a displayed Form or Report [**2.8.3.2**]

C.3.2.b: User selects to print a subset or all attachments for a Case [**2.8.3.4**]

C.3.2.c: User selects to print the screen they are viewing, utilizing a Print-Friendly button [**2.8.3.2**]

C.3.3: User selects the file format for the printed output [**2.8.3.3**]

C.3.4: System generates printed output

C.4: Alerts

This diagram describes workflow for generating an alert (communication directed at human recipients).

C.4.1a: User with appropriate permissions configures criteria to identify unusual disease occurrences based on case counts, and designates alertable roles. [**2.8.4.1**]

C.4.1.b: User with appropriate permissions configures criteria to identify high-risk laboratory data, and designates alertable roles [**2.8.4.3**]

C.4.2: The system monitors case and laboratory data based on the user-defined criteria [**2.8.4.1**; **2.8.4.3**]

C.4.3: When the system identifies situations matching the user-defined alert criteria, the system generates an alert and identifies the designated alertable roles. [**2.8.4.1**; **2.8.4.3**]

C.4.4: The system electronically passes alert to CAHAN, an external Health Alert Network (HAN) [**2.8.4.2**]

C.5: Notifications

This diagram describes the activities associated with end-user notifications, delivered on-line when end-user is logged into system and can check work and notification queues. *Many of the activities depicted in the workflow diagram are re-iterations of activities in other diagrams (e.g. (B.1) Case Processing and (E.1) Outbreak Management), but are included here with an emphasis on the system notifications.*

C.5.1.a: System generated notifications are one component of the Notifications workflow. These include notifications generated by the system, as opposed to in response to a user initiated action.

C.5.1.a.1: System notification of user regarding the receipt of new records. This includes notification of pending ELR records and CMR records, as well as when new Cases are created. [**2.8.5.1**]

C.5.1.a.2: System notification of user regarding required case follow-up and investigation tasks [**2.8.5.5**]

C.5.1.a.3: System notification of user to create or update an Outbreak Episode [**2.6.1.5**]

C.5.1.b: User at a health department requests additional information from an authenticated Provider.

C5.1.b.1: System notification of authenticated Provider, directing them to read information in the system. [**2.8.5.2 - 2.8.5.3**]

C.5.1.c: User at a health department provides feedback on a submitted [report/CMR] to an authenticated Provider.

C.5.1.d: State user requests additional information on a Case from an LHD. [**2.8.5.4**]

C.5.1.d.1: System notification of LHD regarding request for additional Case-related information. [**2.8.5.4**]

C.5.1.d.2: LHD user responds to request for additional Case-related information. [**2.8.5.4**]

C.5.1.d.3: System notification of State user regarding additional Case-related information requested from LHD. [**2.8.5.4**]

C.5.1.e: LHD user requests additional information on a Case from another LHD or the State. [**2.8.5.4**]

C.5.1.e.1 System notification of State regarding request for additional Case-related information. [**2.8.5.4**]

C.5.1.e.2: State user responds to request for additional Case-related information. [**2.8.5.4**]

C.5.1.e.3: System notification of LHD user regarding additional Case-related information requested from another LHD or the State. [**2.8.5.4**]

C.5.1.f: User requests additional information on a Case from another user or user group [**2.8.5.4**]

C.5.1.f.1: System notification of user or group of users regarding request for additional Case-related information [**2.8.5.4**]

C.5.1.f.2: User or user group responds to request for additional Case-related information [**2.8.5.4**]

C.5.1.f.3: System notification of user initiating request for additional information [**2.8.5.4**]

C.5.1.g: User reports Case to State

C.5.1.g.1: System notification of State indicating that Case has been reported [**2.8.5.6**]

C.5.1.g.2: State user reviews and classifies case [**2.4.2.11; 2.8.5.7**]

C.5.1.g.3: <u>If LHD and State classifications differ</u>, the system will generate a notification to the LHD [**2.8.5.7**]

C.5.1.h: User transfers case to another jurisdiction [**2.8.5.8**; **2.5.1.11**]

    C.5.1.h.1: System notification of jurisdiction receiving transferred case [**2.8.5.8**]

    C.5.1.h.2: Jurisdiction receiving transferred case either accepts or corrects transfer [**2.8.5.9**]

    C.5.1.h.3: System notification of jurisdiction initiating transfer [**2.8.5.9**]

D. Associated Case Processing

D.1: To-Do Actions

This diagram describes the activities associated with entry and management of case-specific task lists.

D.1.1.a: User enters To-Do Actions into the System. The intent is to have a task list for the investigation, management, and follow-up activities associated with a case. [**2.7.1.1**]

D.1.1.b: User assigns To-Do Actions to the responsible individual(s) or group. [**2.7.1.2**]

D.1.1.c: User reviews To-Do Actions by various criteria. For example, a user may select to view To-Do Actions by date action is due, by status of action, or view actions assigned to a specific person, including themselves. [**2.7.1.3**]

D.1.1.d: User generates reminders, letters, or reports based on To-Do Actions [**2.7.1.5**]

D.1.1.e: System automatically links specified To-Do Actions as applicable based on condition. *Some conditions have a pre-defined task list, which are provided in Appendix C.* [**2.7.1.4**]

D.2: Geocoding & Mapping

This diagram describes the workflow for the geocoding of records.

D.2.1.a: System captures address and location information. Address and location information may be input into the system by various ways including, manual entry, electronic messaging, and through data import. Address and location information must be standardized. [**2.7.2.1**]

D.2.2: System geocodes the record utilizing either an external geocoding service or an internal geocoding service. External geocoding services, if utilized, must operate in a secure and confidential manner. Internal geocoding services, if utilized, must provide comparable geocoding services to an external service, and must maintain current geocoding files. [**2.7.2.2 – 2.7.2.7**]

D.2.3: User may manually enter/edit system generated geocoded information, and the system will not overwrite user-entered geocoded information. [**2.7.2.8**]

After the initial geocoding of a record, a user may obtain more accurate location (address) information for a case. In the event that this occurs, the user may re-geocode the record:

D.2.1.b: User updates location information based on additional information obtained.

D.2.1.b.1: User initiates the re-geocoding of a record based on the updated information. [**2.7.2.9**]

D.3: Search

This diagram describes the general workflow for the search of Case or Person records

D.3.1.a: User may utilize multiple methods to locate a Case or Cases in the system. This includes the ability to search for a specific Case record and/or review a list of existing Case records matching search criteria. *This includes the ability to perform searches and views lists such as a list of "all cases by disease"; "all cases with a* certain *status"; "all cases assigned to a Jurisdiction"; or "all cases assigned to me".* [**2.7.3.2**]

D.3.1.b: User may utilize multiple methods to locate a Person in the system. This includes the ability to search for a specific Person record and/or review a list of existing Person records matching search criteria [**2.7.3.2 – 2.7.3.3**]

D.3.2: User enters applicable search criteria [**2.7.3.1; 2.7.3.3**]

D.3.3: System generates search results [**2.7.3.1**]

D.4: Master Indexes

This diagram describes the workflow for activities associated with the Master Patient Index, Master Organization Index, and a Master Provider Index. These include the search and deduplication of the master indexes.

Master Indexes includes the components of a master index of all persons of interest, a master index of all organizations of interest, and master index of all providers of interest to avoid duplication of these entities. Access to all indexes is based on user permissions [**2.7.4.1 – 2.7.4.4**]

D.4.A: User searches indexes on relevant data [**2.7.4.5**]

D.4.A.1: User views matching index results [**2.7.4.5**]

D.4.A.2.a: User locates the master index record of interest, and selects existing entity [**2.7.4.5**]

D.4.A.2.b: User does not locate the master index record of interest, and selects to add a new entity to the master index [**2.7.4.5**]

D.4.B: The system interfaces with an external Master Person Index [**2.7.4.11**]

D.4.C: The system identifies possible duplicates within the index [**2.7.4.9**]

D.4.C.1.a: The system automatically merges possible duplicates if a high level of matching confidence is reached. [**2.7.4.9**]

D.4.C.1.b: User views a list of possible duplicates identified by the system [**2.7.4.7**]

D.4.C.2: User merges records, and designates one record as the primary record in the index [**2.7.4.7**]

D.4.C.3: System retains all history and linked information from the merged records. [**2.7.4.7**]

D.4.C.4: System marks all logically deleted records as "inactive" *instead of a physical deletion of the record.* [**2.7.4.7**]

D.4.C.5: System notification of users when records in master indexes are logically deleted. [**2.7.4.8**]

D.4.D: User views master index records that have been merged. [**2.7.4.10**]

E. Outbreak Management and Investigation

E.1: Outbreak Management and Investigation

This diagram describes the activities that health departments perform in support of managing outbreaks of communicable disease.

E.1.a: User creates an outbreak episode in the system. [**2.6.1.4**]

E.1.a.i: System notification to user to create outbreak episode. [**2.6.1.5**]

E.1.b.i: System notification to user to update an outbreak episode. [**2.6.1.5**]

E.1.b: User adds information to an existing outbreak in the system. This includes one or more of the following components:

E.1.b.1: User adds additional information to the outbreak [**2.6.1.7**]

E.1.b.2: User attaches electronic documents to the outbreak [**2.6.1.7**]

E.1.b.3: User prioritizes the outbreak or outbreak investigation [**2.6.1.8**]

E.1.b.4: User links or references cases, contact(s), and outbreaks [**2.6.1.9**]

E.1.b.5: User captures information about activities performed to limit an outbreak [**2.6.1.13**]

E.1.c: User assigns a confirmation status to the outbreak [**2.6.1.2**]

E.1.d: User assigns investigator(s) to an outbreak [**2.6.1.14**]

E.1.e: User assigns investigation status to outbreak [**2.6.1.10**]

E.1.f: User defines outbreak questionnaire forms for entry [**2.6.1.12**]

E.1.g: User shares outbreak information with all related jurisdictions [**2.6.1.6**]

E.1.h: User reports outbreak to State

E.1.h.1: System notification to state user of reported outbreak

E.1.h.2: State user reviews and classifies outbreak

E.1.h.3: <u>If LHD and State classification of outbreak differ</u>, system notification of LHD

E.1.i: User reviews outbreaks by certain criteria, including all outbreaks in a specific jurisdiction; all outbreaks with a certain status, etc. [**2.6.1.3**]

E.1.j: User generates final outbreak reports that are condition specific or transmission-mode specific.   [**2.6.1.11**]